Addax differs from the three above enumerated genera in having broad rounded hoofs, the interdigital web exceedingly thick above, the pedal glands represented by a short narrow cylindrical tube, corresponding to the duct of the gland in *Hippotragus* and *Oryx*, and the horns spirally twisted (Proc. Zool. Soc. 1910, pp. 910–911).

XXV. — *Descriptions from the Joicey Collection of new Species of* Syntomidæ, Nymphalidæ, *and* Hesperidæ, *and Two Genera of* Syntomidæ. By W. J. Kaye, F.E.S.

All the new species herein described will be figured after the war. The striking new *Chlorippe* from Haiti is so far unique. It is a ♀ and could scarcely be a ♀ ab. of *cherubina*, the species it doubtless comes closest to. In Cuba *Chlorippe laure* occurs, but the present insect is certainly not a ♀ of that species, although it is highly possible that *laure* occurs in Haiti.

The new race of *Anæa xenocrates* from French Guiana, although different in the ♂ from the typical species, has a ♀ (only a single specimen) that is exceedingly like the ♀ at Tring of the type-form from Bolivia. The female of this species appears to be exceedingly rare, and it was rather surprising to get a single pair from quite a new locality.

Syntomidæ.

Tigridania, gen. nov.

Proboscis well developed. Palpi long, upturned, reaching well above head, and separated widely at base, but meeting above the head. Antennæ bipectinate in both sexes, longer in ♂. Legs fairly long. Hind tibiæ with two pairs of spurs of nearly equal length and strong spines on the tarsal joints. *Fore wing with vein* 3 *a long way before end of cell and distance between veins* 2, 3 *less than that between* 3 *and* 4. Veins 4, 5 from angle of cell ; a fold between 5, 6, extending across cell ; 11 from cell ; 7, 8, 9, 10 stalked. Costa greatly bulged at base. Hind wing with the lower discocellular very short and oblique ; veins 2 and 4 on a long stalk, 3 absent, 5 present, 6 and 7 from upper angle.

Type, *quadricincta*, Kaye.

The genus comes nearest to *Sarosa*, from which it differs markedly in the position of veins 2 and 3 of the fore wing.

Tigridania quadricincta, sp. n.

Fore wing smoky transparent, with the costa broadly black from before discocellular to apex, which is very broadly black. Discoidal spot black; outer margin with an extension inwards along vein 2, and inner margin with an extension along vein 1 *b* heavy black. Hind wing bluish transparent with hardly any smoky appearance; outer and inner margins heavily black and costa clothed with pale yellowish hair. Abdomen with four yellowish segmental rings. The last four segments black. Fore coxæ whitish beneath. Frons white; gulæ pale yellowish; tegulæ with two pale yellowish spots. Mesothorax with a long central pale spot and patagia with a pale area at base and a pale stripe beyond middle. Metathorax with two pale spots.

Expanse 66 mm.

Hab. Upper Amazons, Rio Ucayali.

Type in Coll. Joicey.

Autochloris crinopoda, sp. n.

Head black with blue scaling at vertex; tegulæ black with blue patches; shoulders with white spots. Thorax and patagia black. Abdomen black with indistinct sublateral blue patches; last four segments crimson. Hind tibiæ with dense orange tufts of hair. Fore wing hyaline with heavy black margins; a heavy black discoidal blotch and a similar blotch between cell and inner margin. Hind wing hyaline, with the outer margin broadly black and a small black discoidal mark. Abdomen below with only the last two segments crimson. Fore coxæ with exterior patches of white scales.

Expanse 41 mm.

Hab. Cayenne.

1 ♂.

Ab. *lutea*, nov.

Abdomen with the last three segments yellow, the fourth only yellow laterally.

Hab. Ecuador, Sarayacu (*C. Buckley*).

Saurita pebasa, sp. n.

Head black, tegulæ black; patagia with large red patches; shoulders with red patches. Abdomen black. Fore wing smoky black, darker about the discocellulars and with a pale

transverse area across the disc. Hind wing smoky black, darker at apical area and inner margin.

Expanse 22 mm.

Hab. Peru, Pebas Loreto, 1913.

Chrostosoma guianensis, sp. n.

Head black with some blue scaling behind the eyes. Thorax black; patagia with red spots and a red spot on the shoulder. Metathorax with a blue spot. Abdomen black, legs and palpi black. Fore wing hyaline, smoky, with dark scaling at base, along inner margin, and at apex. Hind wing smoky hyaline, with apex and inner margin narrowly darker.

Expanse 28 mm.

Hab. British Guiana.

Chrostosoma halli, sp. n.

Head and thorax black. Shoulders with red patches. First abdominal segment with a pair of subdorsal red spots. Abdomen black with some metallic-green scaling, especially on last three segments. Abdomen beneath white on first three segments and with orange sublateral patches on fifth and sixth segments. Fore wing yellowish hyaline, with the costa narrowly black beyond the cell and with the apex black. Outer margin very narrowly black. Hind wing yellow hyaline; outer margins narrowly black, becoming broader at anal angle.

Expanse 33 mm.

Hab. Guatemala, Barrios, 22. xii. 12 (*A. Hall*).

Pheia serpensis, sp. n.

Head black; frons metallic green. Tegulæ orange with a few blue-green scales. Patagia orange. Coxæ vermilion-red. Abdomen above orange with a broad expanding median stripe of blackish brown. Abdomen beneath with a large white valve covering the basal segments. Last five segments black-brown. Fore wing with costa as far as discoidal cell orange, and inner margin for half the distance orange. Wings hyaline. Discoidal spot black, rather rectangular. Outer margin broadly black; apex broad, black. Hind wing transparent, the margins black. Antennæ with the tips white.

Expanse 26 mm.

Hab. Lower Amazon, Serpa, Jan.–Mar. 1914 (*A. Hall*).

Pheia nanata, sp. n.

Head black with vertex of head, *tegulæ*, *frons*, and shoulders with metallic-green spots. Abdomen with first segment with sublateral red spots and a series of faint dorsal green spots. Fore coxæ brilliant vermilion-red. A large white valve covering basal segments beneath. Fore wing transparent with costa, discoidal spot and outer margin black, the last broad at apex and expanding inwards at vein 2. Hind wing with the costa and cell filled up with dark scaling. Apex rather broadly black.

Expanse 26 mm.

Hab. Peru, Rio Pacaya, Lower Ucayali, Aug.–Sept., 1912.

Related to *Pheia hæmapera*, Schs.

Rhyncopyga discalba, sp. n.

Frons black, vertex of head black. Collar orange, tegulæ orange. Thorax and abdomen black. First two joints of palpi orange. Coxæ and valve covering basal segments white. Underside of last five abdominal segments orange. Fore wing with the basal half transparent. Discal half of wing dull black, containing a large white discoidal spot. Median vein heavily scaled with blackish. Hind wing transparent with a broad black apex.

Expanse 19 mm.

Hab. Panama, Bugaba.

Related to *R. flavicollis*, Druce.

Cosmosoma ochreipennis, sp. n.

Palpi orange; frons yellowish. Blue spots behind antennæ. Tegulæ black with metallic-blue spots. Patagia black with a central orange streak. Hind tarsus black above, orange beneath. Thorax black. Abdomen black, segmented with orange and with subdorsal metallic-blue spots, the last five segments with a subsidiary second row of blue spots. Fore wing transparent yellowish, the costa yellow, apex broadly black, and outer margin narrowly black, wider at tornus. Hind wing transparent yellowish with a narrow black outer margin.

Expanse 32 mm.

Hab. Peru, Contamana, Rio Ucayali, xi.–xii. 1912.

Gymnelia semicincta, sp. n.

Frons black, between antennæ bluish black. Tegulæ with brilliant blue patches. Patagia black. Thorax black.

Abdomen with first segment above orange, becoming paler at sides. A broad black dorsal fascia running down the remaining segments, edged on the sides with orange segmental bands and interspaces of bluish scales, especially on the sixth and seventh segments. Fore wing with a small bunch of white scales at base. Costa yellowish, becoming orange beyond the cell. Inner margin orange on basal half. Outer margin black, the apex very broad, the remainder very narrow. Wing-membrane yellow. Hind wing slightly less yellow than fore wing. Inner margin rather broadly black, outer margin narrow.

Expanse 25 mm.

Hab. Colombia, Valparaiso.

Mesothen demicostata, sp. n.

Palpi black; vertex of head metallic blue-green; legs orange. Tegulæ and patagia edged orange. Metathorax and first five segments of abdomen with orange segmental bands. Fore wing yellowish transparent. Costa on the central area bright orange; basally and on apical third black. Apex rather narrowly black and outer margin very narrowly black. Inner margin narrowly orange, except at base, which is black. Hind wing yellowish transparent, with outer margin narrowly black.

Expanse 28 mm.

Hab. W. Colombia (San Antonio), 5800 ft., Nov. 1907 (*M. G. Palmer*).

Rhyncopyga semirufa subochrea, subsp. n.

Fore wing lighter, more ochreous than in *semirufa*. No dark discoidal mark and with the dark marginal band greatly narrowed at tornus. Between discocellulars and marginal band a broad ochreous shade. Hind wing paler than *semirufa* and with a slightly narrower marginal band. Fore wing below with distinct ochreous postdiscal band.

Expanse 26 mm.

Hab. N. Peru, River Tabaconas, 6000 ft. (*A. E. & F. Pratt*), 1912.

Pseudodiptera, gen. nov.

Proboscis absent; palpi slightly downcurved; antennæ bipectinate, with long branches. Thorax and second segment of abdomen clothed with hair. Fore wing long; vein 3 long before end of cell; 4, 5 on a short stalk; 6 from middle of discocellulars, curving down greatly towards vein 5; 7, 8, 9, 10, and 11 stalked. Hind wing small, greatly cut away

at apex; veins 3 and 5 widely separated, 4 absent, 6 absent. A short veinlet in the cell.

Type, *musiforme*.

Pseudodiptera comes nearest to *Apisa*, from which it differs in having veins 3 and 5 of hind wing widely separated at origin and in having vein 6 of fore wing from middle of discocellulars.

Pseudodiptera musiforme, sp. n.

Palpi black; frons with large white spot. Head black with metallic-blue spot between antennæ. Tegulæ with white patches. Patagia black with white spot at base of wing. Below, fore coxæ white and white patches at base of tibiæ. A broad orange stripe on underside of abdomen. Abdomen above black with dark green metallic segmental bands. Fore wing transparent, the margins narrowly black. Discoidal spot narrowly black, connected with outer margin by a short black streak along vein 5. Inner margin with a black extension inwards midway. Hind wing transparent, with the costa and cell filled up with blackish.

Expanse 24 mm.

1 ♂.

Hab. Congo, Oubangui-chari, Tschad.

Type in Coll. Joicey.

Family Hesperidæ.

Subfamily *Pamphilinæ*.

Pseudosarbia campicola, sp. n.

Head, thorax, and abdomen dull brownish black. Fore wing above dull brownish black, with a broad, macular, creamy-whitish, transparent, median band, commencing on costa as a small whitish dot succeeded by a rather square spot within the cell; a much larger and more transparent spot between veins 2, 3, and a creamish-white, more opaque spot lying beneath, but not reaching the inner margin by about 1–2 millimetres. Cilia same as the ground-colour, except for a large white area at tornus. Just beyond cell is a broad regular white band from costa to vein 4, with the veins showing through brownish. Between veins 3, 4 near cell is a small white comma-like mark. Fore wing below as above, except that instead of a small white dot on costa at commencement of band there is a pale yellow streak.

Hind wing above dull brownish black with a broad white band from vein 8 to vein 2 divided up into sections by the dark brown veins. Cilia at apex brown, becoming white thence to tornus, where it is considerably longer. Hind wing

below as above, except for a straight yellow streak within the cell which runs beyond the discocellulars along the fold in place of vein 5.

Abdomen beneath with paired white spots on sternites 4, 5, 6, 7, and 8.

♀. Like the male, except that all the white markings are broader.

Expanse, ♂ 52 mm., ♀ 58 mm.

Hab. S. Brazil, Parana, Ponta Grossa, 1 ♂, 30. 3. 1910 (*W. J. Kaye*). Uruguay (*E. Trimen*).

♂ type in Coll. Kaye. ♀ type in Coll. Joicey.

The habitat of this striking "skipper" is open grassy campo in S. Brazil at 3000 ft. elevation. Hardly another butterfly was to be seen where the ♂ was caught, although a close search was made at the time for further specimens of what I recognized at the time as a rarity.

On the label of the ♀ specimen labelled Uruguay it is stated "Mr. W. C. Hewitson had this Hesperid from me [Rowland Trimen] to describe and figure together with the specimen of *Papilio hellanichus* (also from Uruguay); but although he attached to it the label '*Apheka*' I have not found that he published any description or figure of it.—R. Trimen."

The type of *Papilio hellanichus*, once in the Trimen collection, was acquired with the whole collection by Mr. Joicey.

Family **Nymphalidæ**.

Chlorippe speciosissima, sp. n.

♀. Fore wing ochre-yellow with two black transverse marks, the one within the cell flat V-shaped, the other lying along discocellulars. A pale transverse band across disc, straight to vein 3, then set back and broken; a conspicuous blackish spot surrounded with reddish ochreous near tornus between veins 2 and 3. A dark shade in subapical area containing two pale round spots. Subterminal black line regular preceded by a crenulated black band which merges in the dark subapical area. Hind wing ochre-yellow with a small round black spot within the cell, lying close to origin of vein 7. Costal area brownish black with a square whitish patch in middle, which represents the end of a transverse band which is almost obliterated. A large black spot surrounded with reddish ochreous between veins 2, 3. Subterminal line black, regular to vein 2, where it is strongly toothed and edged externally with grey. A heavy black inner crenulated band also strongly toothed at vein 2. Outer margin crenulated. Underside of hind wing pinkish silvery

with the upperside markings showing through, and with a well-defined central whitish band becoming more or less merged with the ground-colour at anal angle.

Expanse 82 mm.

Hab. Haiti, no precise locality.

Type in Coll. Joicey.

Anaea xenocrates punctimarginale, subsp. n.

♂. Differs from *xenocrates xenocrates* from Bolivia in the fore wing by having no blue scaling at tornus and in the blue subapical spots being widely separated and showing no tendency to unite inwards. Hind wing with a series of rather small triangular blue marginal spots, not a band as in the Bolivian form.

♀. Shows much less difference from type-form. The margin of hind wing is yellow banded as in the ♀ from Bolivia. There is an extra yellow spot between veins 3, 4, smaller than that between veins 2, 3.

Expanse 82 mm.

Hab. French Guiana, St. Jean de Maroni.

1 ♂, 1 ♀.

Type in Coll. Joicey.

The occurrence in French Guiana of a species only known hitherto from Bolivia and the Upper Amazons (Pebas) is strange, and at first suggests specific difference and not subspecific. But the species is rare, the ♀ exceedingly so, and its range may lie across the interior of Brazil where it could easily remain undetected. The species has been chiefly known from Eastern Bolivia, but the few specimens known from Pebas belong to the same form with a blue marginal hind-wing band in the ♂.

XXVI.—*Observations on the Genus* Lysorophus, *Cope.* By Robert Broom. *With a Note*, by Prof. W. J. Sollas.

So much has already been written about this little vertebrate by Broili, Case, v. Huene, Moodie, Finney, and Williston that it might seem doubtful wisdom to add another paper to the already extensive literature, and more especially as my observations are on specimens already carefully examined by Case and v. Huene; but when one considers that *Lysorophus* is the most remarkable land vertebrate that has been discovered for many years, and that opinions not only differ as to its affinities but also as to the interpretation of a number of the cranial elements, a further review of even the present evidences seems justifiable.